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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,226	01/08/2002	Noriyuki Morikawa	084335-0154	9242

22428 7590 07/27/2004

FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER	
HAMUD, FOZIA M	

ART UNIT	PAPER NUMBER
1647	

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/030,226	MORIKAWA ET AL.	
	Examiner	Art Unit	
	Fozia M Hamud	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 17-28* is/are pending in the application.

4a) Of the above claim(s) *19,20 and 24-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,17,18 and 21-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *07/02; 01/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *sequence alignment*.

DETAILED ACTION

Election/Restriction:

1a. Originally, claims 1-16 have been filed, of which claims 5-16 have been cancelled and claims 1 and 2 have been amended. New claims 17-28 have been added. The latest list of claims, filed on 29 April 2004, do not list claims 3 and 4. However, since claims 3 and 4 have never been cancelled, these claims will be considered as pending. Thus claims 1-4, 17-28 are pending.

1b. Applicant's election of the invention of Group I (original claims 1-6 and 9-11) filed on 29 April 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 1-4, 17, 18, 21-23 are drawn to the elected invention and are under consideration.

The restriction requirement is still deemed proper and is therefore made FINAL.

Claims 19, 20, 24-28 are withdrawn from consideration by the Examiner as they are drawn to non-elected inventions.

Priority:

2a. The subject matter claimed in the instant application is afforded the filing date of the current application, which is 08 January 2002. The claimed nucleic acid encodes the polypeptide of SEQ ID NO:2, which is described as being a fatty acid transport protein. Example 5 of the instant specification demonstrates that oleic acid incorporation by cells expressing the protein of the instant invention was significantly enhanced, thus

satisfying the requirements under 35 USC § 112 of how to make and the use the claimed invention.

Should the applicants disagree with the examiner's factual determination above, it is incumbent upon the applicants to provide the serial number(s) and specific page number(s) of any parent application filed prior to 01/08/02, which specifically supports the particular claim limitation for each and every claim limitation in all the pending claims which applicant considers to have been in possession of and fully enabled for prior to 01/08/02. Applicants must also provide translations of such documents when necessary.

Amendment to the Specification:

3a. The amendment filed on 08 January 2002 and resubmitted on 29 April 2004 is improper because it does not conform to 37 CFR 1.121 which requires that the location and sections of the specification that changes are made to must unambiguously be identified, for example, any additions may be underlined and any deletions may be enclosed in brackets. In the instant case the amendment does not identify what is being added or deleted from the sections of the specification that is supposed to be amended. Appropriate correction is requested.

2b. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code on page 4, lines 10, 17, 19, 23 and on pages 7 and 19. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Information Disclosure:

3a. A copy of the reference by J.E Schaffer (Circulation, vol.96, No.8) has not been submitted by Applicants and an attempt to obtain said document has not been successful. Applicants are kindly requested to provide a copy of this reference.

Claim rejections-35 USC § 112:

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4a. Claims 1-4, 17, 18 and 21-23 a re rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an isolated polynucleotide comprising the nucleotide sequence set forth in SEQ ID NO:1, said polynucleotide encoding the polypeptide comprising the amino acid sequence set forth in SEQ ID NO:2, an expression vector comprising said polynucleotide and a method of producing the encoded protein, does not reasonably provide enablement for an isolated polynucleotide which encodes a protein that comprises the amino acid sequence set forth in SEQ ID NO:2, wherein one or more amino acids have been substituted, deleted, inserted and/or added, or which ahs over all mutations that is 10% or less; or an isolated nucleic acid which encodes a functional equivalent to the protein of SEQ ID NO:2; or encodes a partial protein. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The instant specification describes the polypeptide of SEQ ID NO:2 as a fatty acid transport protein and demonstrates that oleic acid incorporation by cells expressing

the protein of the instant invention was significantly enhanced (see example 5). However, the instant specification does not disclose any polypeptide wherein one or more amino acids have been substituted, deleted, inserted and/or added, or which has over all mutations that is 10% or less that retain the activity of the polypeptide of SEQ ID NO:2. Neither does the instant specification disclose any "functional equivalents" of the polypeptide of the instant invention. Support for "functional equivalents" is found on page 9, lines 29-35, where it states that "functional equivalents" are isolated from rabbits, chickens, however, there is no disclosure of any "functional equivalents" that have the same activity as the polypeptide of SEQ ID NO:2. Applicants do not teach which 10% of the polypeptide of SEQ ID NO:2 to mutate, or which regions of the polypeptide of SEQ ID NO:2 can tolerate deletions, insertions or substitutions of at least one amino acid, without affecting the activity of said polypeptide. Applicants also do not disclose "functional equivalents" of the polypeptide of SEQ ID NO:2 that retain the activity of the polypeptide. Thus without information regarding which regions of the polypeptide of SEQ ID NO:2 are critical to a specific function, the full scope of the claimed invention is not enabled. In summary, the amount of experimentation required for one of ordinary skill in the art to make and use an isolated nucleic acid which encodes a polypeptide that comprises the amino acid sequence set forth in SEQ ID NO:2, wherein one or more amino acids have been substituted, deleted, inserted and/or added, or which has over all mutations that is 10% or less; or an isolated nucleic acid which encodes a functional equivalent to the protein of SEQ ID NO:2; or encodes a partial protein would be undue. In Ex parte Forman, 230 USPQ 546 (Bd. Pat. Appls,

and Interf. 1986), the Board considered the issue of enablement in molecular biology. The Board held that the following factors should be considered to determine whether the claimed invention would require of the skilled artisan undue experimentation: (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art and (8) the breadth of the claims. In the instant application, Applicants only disclose one polypeptide, said polypeptide comprising the amino acid sequence set forth in SEQ ID NO:2, encoded by the nucleic acid comprising the nucleotide sequence wet forth in SEQ ID NO:1, and it will be undue experimentation to delineate "all" possible polypeptides that contain one or more amino acid substitutions, deletions, insertions and/or additions, or which has an over all mutations that is 10% or less; a partial peptide of SEQ ID NO:2 or a functional equivalent to the protein of SEQ ID NO:2 which retain the desired activity, because Applicants have not taught which amino acid residues of SEQ ID NO:2 to alter without altering the desired activity. Furthermore, the state of the art is such that it is acknowledged that amino acid modifications of proteins is unpredictable, thus one of ordinary skill in the art would not be able to predict which amino acids to delete or to substitute while still preserving the desired activity. Neither has the specification disclosed where of the polypeptide of SEQ ID NO:2 to insert amino acids without altering the desired activity. There is no upper limit as to how many amino acids to be substituted, deleted, or inserted or which regions of the polypeptide are critical for its'

function, the skilled artisan would not know how to make and use the claimed polypeptide. Therefore, the instant specification is only enabling for an isolated nucleic acid comprising the nucleotide sequence set forth in SEQ ID NO:1, said nucleic acid encoding the polypeptide of SEQ ID NO:2.

3b. Claims 1-4, 17-18, 21-23 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

The instant specification as filed also only describes the structure of the nucleic acid of SEQ ID NO:1 encoding the polypeptide of SEQ ID NO:2, and fails to describe nucleic acid molecules encoding: functional equivalents, or polypeptide that contain one or more amino acids substitutions, deletions, insertions and/or additions, or which has an over all mutations that is 10% or less; partial peptide of SEQ ID NO:2 or a functional equivalent to the protein of SEQ ID NO:2. Therefore, conception is not achieved until reduction to practice has occurred. Adequate written description requires more than a mere statement that it is part of the invention.

To satisfy the written description requirement, an applicant's specification must reasonably convey to those skilled in the art that the applicant was in possession of the claimed invention as of the date of invention. Regents of the University of California v. Eli Lilly & Co., 119 F.3d 1559, 1568, 43 USPQ2d 1398, 1405 (Fed. Cir. 1997); Hyatt v. Boone, 146 F.3d 1348, 1354, 47 USPQ2d 1128, 1132 (Fed. Cir. 1998). Furthermore, In The Reagents of the University of California v. Eli Lilly (43 USPQ2d 1398-1412), the

court held that a generic statement which defines a genus of nucleic acids by only their functional activity does not provide an adequate written description of the genus. Adequate written description requires more than a mere statement that it is part of the invention. The court indicated that while Applicants are not required to disclose every species encompassed by a genus, the description of a genus is achieved by the recitation of a representative number of DNA molecules, usually defined by a nucleotide sequence, falling within the scope of the claimed genus. At section B(1), the court states that "An adequate written description of a DNA...'requires a precise definition, such as by structure, formula, chemical name, or physical properties', not a mere wish or plan for obtaining the claimed chemical invention". In the instant case, Applicants are claiming nucleic acids encoding variants and fragments of the polypeptide of SEQ ID NO:2, however, Applicants do not provide the structure of any said variants or fragments.

Therefore only the nucleic acid encoding the polypeptide comprising the amino acid sequence set forth in SEQ ID NO:2, but not the full breadth of the claims, meets the written description provision of 35 U.S.C. 112, first paragraph.

Claim Rejections - 35 U.S.C. § 112, second paragraph:

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-4, 17-18, 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4a. Claim 1 recites "....wherein overall percentage of mutations is typically 10% or less...", however, it is unclear how much less than 10%, should said mutation be, 5%, 1% or 9.9%? Furthermore, "typically" is a vague term and it renders the claim indefinite.

4b. Claim 1 recites ".... In which one or more amino acids have been deleted, substituted, inserted and/or added...", however it is unclear how many amino acids of the polypeptide of SEQ ID NO:2 to delete, insert or substitute for. There is no upper limit as to how many amino acids to alter, is it only one, ten or more? The metes and bounds of the claim cannot e ascertained.

4c. Claim 1 recites ".... polynucleotide that hybridizes under stringent conditions....", however, "stringent conditions" is a conditional term and renders the claim indefinite. This rejection could be obviated by supplying specific conditions supported by the specification, which Applicants consider to be "stringent".

4d. Claims 21-23 recite ".....or to a complementary strand thereof", however, it is unclear whether "a complement strand thereof" is to the nucleic acid of SEQ ID NO:1 or to the complement of the nucleic acid of claim 1. Also in claim 21, it is redundant to recite "15 nucleotides" twice in the claim. Furthermore, it appears that claims 21 and 22 are drawn to a subject matter that is of equal scope. Clarification is required.

Claims 2-4, 17-18 are also rejected under 35 U.S.C. § 112, second paragraph, as being indefinite, so long as they depend from claim 1, for the limitations set forth directly above.

Claim rejections-35 USC § 102:

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5a. Claims 1-4, 17-18, 21-23 are rejected under 35 U.S.C § 102(b) as being anticipated by (WO 99/46281 published 16 September 1999; WO 0053754 published 14 September 2000.

Each of these references teaches an isolated nucleic acid molecule comprising a nucleotide sequence that shares 100% identity to the coding region of the nucleic acid of SEQ ID NO:1 of the instant application and encodes a polypeptide that shares 100% identity to the polypeptide of SEQ ID NO:2 of the instant application. (See attached copy of the comparison of SEQ ID NOs: 1 and 2 of the instant invention and the sequences of the references (SEQUENCE COMPARISON 'A-D'). The references also teach a vector comprising said nucleic acid, a host cell comprising said vector, a method of producing the encoded polypeptide and a probe that is comprises at least 15 nucleotides that is complementary to the nucleic acid of SEQ ID NO:1. Therefore each of the references anticipates the instant claims 1-4, 17-18, 21-23 in the absence of any evidence to the contrary.

5b. Claims 1-4, 17-18, 21-23 are rejected under 35 U.S.C § 102(b) as being anticipated by Hirsch et al (1998).

Hirsch et al disclose an isolated nucleic acid that encodes a fatty acid transporter protein, a vector comprising said nucleic acid, a host cell comprising said vector and a method of producing the encoded polypeptide. The polypeptide disclosed by Hirsch et al shares 54.7% overall homology to the polypeptide of SEQ ID NO:2 of the instant application. (See attached copy of the comparison of SEQ ID NO:2 of the instant

invention and the sequences of the references (SEQUENCE COMPARISON 'E").. Therefore, a complement of the nucleic acid encoding the polypeptide disclosed by Hirsch et al would be expected to hybridize to the instant nucleic acid of SEQ ID NO:1, thus anticipating instant claim 1. The nucleic acid encoding the polypeptide disclosed by Hirsch et al would also be expected to contain at least 15 contiguous nucleotides of the instant SEQ ID NO:1, thus meeting the limitations recited in instant claims 21-23. therefore, the Hirsch et al reference anticipates the instant claims 1-4, 17-18, 21-23 in the absence of any evidence to the contrary.

Conclusion:

No claim is allowed.

Advisory Information:

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fozia M Hamud whose telephone number is (571) 272-0884. The examiner can normally be reached on Monday, Thursday-Friday, 6:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda G Brumback can be reached on (571) 272-0961. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fozia Hamud
Patent Examiner
Art Unit 1647
22 July 2004

JANET ANDRES
PRIMARY EXAMINER

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Db        421 AGCGCGCCGCGCACACCTTTCTCATTCACGGCTCGCGGCGCTTTAGCTACTCAGAGGCGG 480
Qy        489 AGCGCGAGAGTAACAGGGCTGCACGCGCCTTCCTACGTGCGCTAGGCTGGGACTGGGGAC 548
Db        481 AGCGCGAGAGTAACAGGGCTGCACGCGCCTTCCTACGTGCGCTAGGCTGGGACTGGGGAC 540
Qy        549 CCGACGGCGGCGACAGCGGCGAGGGGAGCGCTGGAGAAGGCGAGCGGGCAGCGCCGGGAG 608
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Qy        609 CCGGAGATGCAGCGGCCGGAAGCGGCGCGGAGTTTGCCGGAGGGGACGGTGCCGCCAGAG 668
Db        601 CCGGAGATGCAGCGGCCGGAAGCGGCGCGGAGTTTGCCGGAGGGGACGGTGCCGCCAGAG 660
Qy        669 GTGGAGGAGCCGCCGCCCCTCTGTCACCTGGAGCAACTGTGGCGCTGCTCCTCCCCGCTG 728
Db        661 GTGGAGGAGCCGCCGCCCCTCTGTCACCTGGAGCAACTGTGGCGCTGCTCCTCCCCGCTG 720
Qy        729 GCCCAGAGTTTCTGTGGCTCTGGTTCGGGCTGGCCAAGGCCGGCCTGCGCACTGCCTTTG 788
Db        721 GCCCAGAGTTTCTGTGGCTCTGGTTCGGGCTGGCCAAGGCCGGCCTGCGCACTGCCTTTG 780
Qy        789 TGCCCACCGCCCTGCGCCGGGGCCCCCTGCTGCACTGCCTCCGCAGCTGCGGCGCGCGCG 848
Db        781 TGCCCACCGCCCTGCGCCGGGGCCCCCTGCTGCACTGCCTCCGCAGCTGCGGCGCGCGCG 840
Qy        849 CGCTGGTGCTGGCGCCAGAGTTTCTGGAGTCCCTGGAGCCGGACCTGCCCGCCCTGAGAG 908
Db        841 CGCTGGTGCTGGCGCCAGAGTTTCTGGAGTCCCTGGAGCCGGACCTGCCCGCCCTGAGAG 900
Qy        909 CCATGGGGCTCCACCTGTGGGCTGCAGGCCCAGGAACCCACCCTGCTGGAATTAGCGATT 968
Db        901 CCATGGGGCTCCACCTGTGGGCTGCAGGCCCAGGAACCCACCCTGCTGGAATTAGCGATT 960
Qy        969 TGCTGGCTGAAGTGTCCGCTGAAGTGGATGGGCCAGTGCCAGGATACCTCTCTTCCCCCC 1028
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Qy       1029 AGAGCATAACAGACACGTGCCTGTACATCTTCACCTCTGGCACCACGGGCCTCCCCAAGG 1088
Db       1021 AGAGCATAACAGACACGTGCCTGTACATCTTCACCTCTGGCACCACGGGCCTCCCCAAGG 1080
Qy       1089 CTGCTCGGATCAGTCATCTGAAGATCCTGCAATGCCAGGGCTTCTATCAGCTGTGTGGTG 1148
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Qy       1209 TGGGCATCGTGGGCTGCATGGGCATTGGGGCCACAGTGGTGCTGAAATCCAAGTTCTCGG 1268
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Qy       1269 CTGGTCAGTTCTGGGAAGATTGCCAGCAGCACAGGGTGACGGTGTTCCAGTACATTGGGG 1328
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Qy       1629 GTATGGCCACATCTCCAGGTGAGCCAGGGCTGCTGGTGGCCCCGGTAAGCCAGCAGTCCC 1688
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Qy       1689 CATTCCTGGGCTATGCTGGCGGGCCAGAGCTGGCCCAGGGGAAGTTGCTAAAGGATGTCT 1748
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Qy       1809 TTCTCCGCTTCCATGATCGTACTGGAGACACCTTCAGGTGGAAGGGGGAGAATGTGGCCA 1868
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Qy       1869 CAACCGAGGTGGCAGAGGTCTTCGAGGCCCTAGATTTTCTTCAGGAGGTGAACGTCTATG 1928
Db       1861 CAACCGAGGTGGCAGAGGTCTTCGAGGCCCTAGATTTTCTTCAGGAGGTGAACGTCTATG 1920
Qy       1929 GAGTCACTGTGCCAGGGCATGAAGGCAGGGCTGGAATGGCAGCCCTAGTTCTGCGTCCCC 1988
Db       1921 GAGTCACTGTGCCAGGGCATGAAGGCAGGGCTGGAATGGCAGCCCTAGTTCTGCGTCCCC 1980
Qy       1989 CCCACGCTTTGGACCTTATGCAGCTCTACACCCACGTGTCTGAGAACTTGCCACCTTATG 2048
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Qy       2049 CCCGGCCCCGATTCCTCAGGCTCCAGGAGTCTTTGGCCACCACAGAGACCTTCAAACAGC 2108
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Qy       2109 AGAAAGTTCGGATGGCAAATGAGGGCTTCGACCCCAGCACCCTGTCTGACCCACTGTACG 2168
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Qy       2229 TGGCAGGAAACCTTCGAATCTGAGAACTTCCACACCTGAGGCACCTGAGAGAGGAACTCT 2288
Db       2221 TGGCAGGAAACCTTCGAATCTGAGAACTTCCACACCTGAGGCACCTGAGAGAGGAACTCT 2280
Qy       2289 GTGGGGTGGGGGCCGTTGCAGGTGTACTGGGCTGTCAGGGATCTTTTCTATACCAGAACT 2348
Db       2281 GTGGGGTGGGGGCCGTTGCAGGTGTACTGGGCTGTCAGGGATCTTTTCTATACCAGAACT 2340
Qy       2349 GCGGTCACTATTTTGTAATAAATGTGGCTGGAGCTGATCCAGCTGTCTCTGA 2400
Db       2341 GCGGTCACTATTTTGTAATAAATGTGGCTGGAGCTGATCCAGCTGTCTCTGA 2392
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RESULT 5
AAZ33977
ID AAZ33977 standard; cDNA; 2574 BP.
XX
AC AAZ33977;
XX
DT 07-DEC-1999 (first entry)
XX
DE Human PRO703 nucleotide sequence.
XX
KW Human; PRO; EST; expressed sequence tag; PCR primer; hybridisation;
KW probe; blood coagulation disorder; cancer; cellular adhesion disorder;
KW secreted protein; transmembrane protein; ss.
XX
OS Homo sapiens.

Sequence Comparison 'A'

Sequence Comparison A)

XX
PN WO9946281-A2.
XX
PD 16-SEP-1999.
XX
PF 08-MAR-1999; 99WO-US005028.
XX
PR 10-MAR-1998; 98US-0077450P.
PR 11-MAR-1998; 98US-0077632P.
PR 11-MAR-1998; 98US-0077641P.
PR 11-MAR-1998; 98US-0077649P.
PR 12-MAR-1998; 98US-0077791P.
PR 13-MAR-1998; 98US-0078004P.
PR 17-MAR-1998; 98US-00040220.
PR 20-MAR-1998; 98US-0078886P.
PR 20-MAR-1998; 98US-0078910P.
PR 20-MAR-1998; 98US-0078936P.
PR 20-MAR-1998; 98US-0078939P.
PR 25-MAR-1998; 98US-0079294P.
PR 26-MAR-1998; 98US-0079656P.
PR 27-MAR-1998; 98US-0079663P.
PR 27-MAR-1998; 98US-0079664P.
PR 27-MAR-1998; 98US-0079689P.
PR 27-MAR-1998; 98US-0079728P.
PR 27-MAR-1998; 98US-0079786P.
PR 30-MAR-1998; 98US-0079920P.
PR 30-MAR-1998; 98US-0079923P.
PR 31-MAR-1998; 98US-0080105P.
PR 31-MAR-1998; 98US-0080107P.
PR 31-MAR-1998; 98US-0080165P.
PR 31-MAR-1998; 98US-0080194P.
PR 01-APR-1998; 98US-0080327P.
PR 01-APR-1998; 98US-0080328P.
PR 01-APR-1998; 98US-0080333P.
PR 01-APR-1998; 98US-0080334P.
PR 08-APR-1998; 98US-0081049P.
PR 08-APR-1998; 98US-0081070P.
PR 08-APR-1998; 98US-0081071P.
PR 09-APR-1998; 98US-0081195P.
PR 09-APR-1998; 98US-0081203P.
PR 09-APR-1998; 98US-0081229P.
PR 15-APR-1998; 98US-0081817P.
PR 15-APR-1998; 98US-0081838P.
PR 15-APR-1998; 98US-0081952P.
PR 15-APR-1998; 98US-0081955P.
PR 21-APR-1998; 98US-0082568P.
PR 21-APR-1998; 98US-0082569P.
PR 22-APR-1998; 98US-0082700P.
PR 22-APR-1998; 98US-0082704P.
PR 22-APR-1998; 98US-0082804P.
PR 23-APR-1998; 98US-0082767P.
PR 23-APR-1998; 98US-0082796P.
PR 27-APR-1998; 98US-0083336P.
PR 28-APR-1998; 98US-0083322P.
PR 29-APR-1998; 98US-0083392P.
PR 29-APR-1998; 98US-0083495P.
PR 29-APR-1998; 98US-0083496P.
PR 29-APR-1998; 98US-0083499P.
PR 29-APR-1998; 98US-0083500P.
PR 29-APR-1998; 98US-0083545P.
PR 29-APR-1998; 98US-0083554P.
PR 29-APR-1998; 98US-0083558P.
PR 29-APR-1998; 98US-0083559P.
PR 30-APR-1998; 98US-0083742P.
PR 05-MAY-1998; 98US-0084366P.
PR 06-MAY-1998; 98US-0084414P.
PR 06-MAY-1998; 98US-0084441P.
PR 07-MAY-1998; 98US-0084598P.
PR 07-MAY-1998; 98US-0084600P.
PR 07-MAY-1998; 98US-0084627P.
PR 07-MAY-1998; 98US-0084637P.
PR 07-MAY-1998; 98US-0084639P.
PR 07-MAY-1998; 98US-0084640P.
PR 07-MAY-1998; 98US-0084643P.
PR 13-MAY-1998; 98US-0085323P.
PR 13-MAY-1998; 98US-0085338P.
PR 13-MAY-1998; 98US-0085339P.
PR 15-MAY-1998; 98US-0085573P.
PR 15-MAY-1998; 98US-0085579P.
PR 15-MAY-1998; 98US-0085580P.
PR 15-MAY-1998; 98US-0085582P.
PR 15-MAY-1998; 98US-0085689P.
PR 15-MAY-1998; 98US-0085697P.
PR 15-MAY-1998; 98US-0085700P.
PR 15-MAY-1998; 98US-0085704P.
PR 18-MAY-1998; 98US-0086023P.
PR 22-MAY-1998; 98US-0086392P.
PR 22-MAY-1998; 98US-0086414P.
PR 22-MAY-1998; 98US-0086430P.
PR 22-MAY-1998; 98US-0086486P.
PR 28-MAY-1998; 98US-0087098P.
PR 28-MAY-1998; 98US-0087106P.
PR 28-MAY-1998; 98US-0087208P.
PR 30-JUL-1998; 98US-0094651P.
PR 11-SEP-1998; 98US-0100038P.
XX
PA (GETH) GENENTECH INC.
XX
PI Wood WI, Goddard A, Gurney A, Yuan J, Baker KP, Chen J;
XX
DR WPI; 1999-551358/46.
DR P-PSDB; AAY41699.
XX
PT New secreted and transmembrane polypeptides and their polynucleotides,
PT useful for treating blood coagulation disorders, cancers and cellular
PT adhesion disorders.
XX
PS Claim 2; Fig 38; 530pp; English.
XX
CC The present invention describes secreted and transmembrane polypeptides
CC and their polynucleotides. The nucleotide sequences are useful as sources
CC of probes, primers, for chromosome mapping, and for generation of
CC antisense sequences. They can also be used to create transgenic animals.
CC The proteins can be used to treat a variety of diseases and disorders,
CC depending on their function. Diseases that may be treated include blood
CC coagulation disorders, cancers and cellular adhesion disorders. They may
CC also be used to raise antibodies. AAZ33891 to AAZ34338, and AAY41685 to
CC AAY41774 represent polynucleotide and polypeptide sequence given in the
CC exemplification of the present invention
XX
SQ Sequence 2574 BP; 470 A; 775 C; 821 G; 508 T; 0 U; 0 Other;

Query Match 99.3%; Score 2387; DB 2; Length 2574;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 2387; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 18 CTGCTCTCCGCCCGTGTGGAGTGGTGGGGGCCTGGGTGGGAATGGGCGTGTGCCAGCGCA 77
Db 74 CTGCTCTCCGCCCGTGTGGAGTGGTGGGGGCCTGGGTGGGAATGGGCGTGTGCCAGCGCA 133

Qy 78 CGCGCGCTCCCTGGAAGGAGAAGTCTCAGCTAGAACGAGCGGCCCTAGGTTTTCGGAAGG 137
Db 134 CGCGCGCTCCCTGGAAGGAGAAGTCTCAGCTAGAACGAGCGGCCCTAGGTTTTCGGAAGG 193

Qy 138 GAGGATCAGGGATGTTTGCGAGCGGCTGGAACCAGACGGTGCCGATAGAGGAAGCGGGCT 197
Db 194 GAGGATCAGGGATGTTTGCGAGCGGCTGGAACCAGACGGTGCCGATAGAGGAAGCGGGCT 253

Qy 198 CCATGGCTGCCCTCCTGCTGCTGCCCCTGCTGCTGTTGCTACCGCTGCTGCTGCTGAAGC 257
Db 254 CCATGGCTGCCCTCCTGCTGCTGCCCCTGCTGCTGTTGCTACCGCTGCTGCTGCTGAAGC 313

Qy 258 TACACCTCTGGCCGCAGTTGCGCTGGCTTCCGGCGGACTTGGCCTTTGCGGTGCGAGCTC 317
Db 314 TACACCTCTGGCCGCAGTTGCGCTGGCTTCCGGCGGACTTGGCCTTTGCGGTGCGAGCTC 373

Sequence Comparison 'A'

```
Qy      318 TGTGCTGCAAAAGGGCTCTTCGAGCTCGCGCCCTGGCCGCGGCTGCCGCCGACCCGGAAG 377
Db      374 TGTGCTGCAAAAGGGCTCTTCGAGCTCGCGCCCTGGCCGCGGCTGCCGCCGACCCGGAAG 433

Qy      378 GTCCCGAGGGGGGCTGCAGCCTGGCCTGGCGCCTCGCGGAACTGGCCCAGCAGCGCGCCG 437
Db      434 GTCCCGAGGGGGGCTGCAGCCTGGCCTGGCGCCTCGCGGAACTGGCCCAGCAGCGCGCCG 493

Qy      438 CGCACACCTTTCTCATTCACGGCTCGCGGCGCTTTAGCTACTCAGAGGCGGAGCGCGAGA 497
Db      494 CGCACACCTTTCTCATTCACGGCTCGCGGCGCTTTAGCTACTCAGAGGCGGAGCGCGAGA 553

Qy      498 GTAACAGGGCTGCACGCGCCTTCCTACGTGCGCTAGGCTGGGACTGGGGACCCGACGGCG 557
Db      554 GTAACAGGGCTGCACGCGCCTTCCTACGTGCGCTAGGCTGGGACTGGGGACCCGACGGCG 613

Qy      558 GCGACAGCGGCGAGGGGAGCGCTGGAGAAGGCGAGCGGGCAGCGCCGGGAGCCGGAGATG 617
Db      614 GCGACAGCGGCGAGGGGAGCGCTGGAGAAGGCGAGCGGGCAGCGCCGGGAGCCGGAGATG 673

Qy      618 CAGCGGCCGGAAGCGGCGCGGAGTTTGCCGGAGGGGACGGTGCCGCCAGAGGTGGAGGAG 677
Db      674 CAGCGGCCGGAAGCGGCGCGGAGTTTGCCGGAGGGGACGGTGCCGCCAGAGGTGGAGGAG 733

Qy      678 CCGCCGCCCCCTCTGTCACCTGGAGCAACTGTGGCGCTGCTCCTCCCCGCTGGCCCAGAGT 737
Db      734 CCGCCGCCCCCTCTGTCACCTGGAGCAACTGTGGCGCTGCTCCTCCCCGCTGGCCCAGAGT 793

Qy      738 TTCTGTGGCTCTGGTTCGGGCTGGCCAAGGCCGGCCTGCGCACTGCCTTTGTGCCCACCG 797
Db      794 TTCTGTGGCTCTGGTTCGGGCTGGCCAAGGCCGGCCTGCGCACTGCCTTTGTGCCCACCG 853

Qy      798 CCCTGCGCCGGGGGCCCCCTGCTGCACTGCCTCCGCAGCTGCGGCGCGCGCGCGCTGGTGC 857
Db      854 CCCTGCGCCGGGGGCCCCCTGCTGCACTGCCTCCGCAGCTGCGGCGCGCGCGCGCTGGTGC 913

Qy      858 TGGCGCCAGAGTTTCTGGAGTCCCTGGAGCCGGACCTGCCCGCCCTGAGAGCCATGGGGC 917
Db      914 TGGCGCCAGAGTTTCTGGAGTCCCTGGAGCCGGACCTGCCCGCCCTGAGAGCCATGGGGC 973

Qy      918 TCCACCTGTGGGCTGCAGGCCCAGGAACCCACCCTGCTGGAATTAGCGATTTGCTGGCTG 977
Db      974 TCCACCTGTGGGCTGCAGGCCCAGGAACCCACCCTGCTGGAATTAGCGATTTGCTGGCTG 1033

Qy      978 AAGTGTCCGCTGAAGTGGATGGGCCAGTGCCAGGATACCTCTCTTCCCCCCAGAGCATAA 1037
Db     1034 AAGTGTCCGCTGAAGTGGATGGGCCAGTGCCAGGATACCTCTCTTCCCCCCAGAGCATAA 1093

Qy     1038 CAGACACGTGCCTGTACATCTTCACCTCTGGCACCACGGGCCTCCCCAAGGCTGCTCGGA 1097
Db     1094 CAGACACGTGCCTGTACATCTTCACCTCTGGCACCACGGGCCTCCCCAAGGCTGCTCGGA 1153

Qy     1098 TCAGTCATCTGAAGATCCTGCAATGCCAGGGCTTCTATCAGCTGTGTGGTGTCCACCAGG 1157
Db     1154 TCAGTCATCTGAAGATCCTGCAATGCCAGGGCTTCTATCAGCTGTGTGGTGTCCACCAGG 1213

Qy     1158 AAGATGTGATCTACCTCGCCCTCCCACTCTACCACATGTCCGGTTCCCTGCTGGGCATCG 1217
Db     1214 AAGATGTGATCTACCTCGCCCTCCCACTCTACCACATGTCCGGTTCCCTGCTGGGCATCG 1273

Qy     1218 TGGGCTGCATGGGCATTGGGGCCACAGTGGTGCTGAAATCCAAGTTCTCGGCTGGTCAGT 1277
Db     1274 TGGGCTGCATGGGCATTGGGGCCACAGTGGTGCTGAAATCCAAGTTCTCGGCTGGTCAGT 1333

Qy     1278 TCTGGGAAGATTGCCAGCAGCACAGGGTGACGGTGTTCCAGTACATTGGGGAGCTGTGCC 1337
Db     1334 TCTGGGAAGATTGCCAGCAGCACAGGGTGACGGTGTTCCAGTACATTGGGGAGCTGTGCC 1393

Qy     1338 GATACCTTGTCAACCAGCCCCCGAGCAAGGCAGAACGTGGCCATAAGGTCCGGCTGGCAG 1397
Db     1394 GATACCTTGTCAACCAGCCCCCGAGCAAGGCAGAACGTGGCCATAAGGTCCGGCTGGCAG 1453

Qy     1398 TGGGCAGCGGGCTGCGCCCAGATACCTGGGAGCGTTTTGTGCGGCGCTTCGGGCCCCTGC 1457
Db     1454 TGGGCAGCGGGCTGCGCCCAGATACCTGGGAGCGTTTTGTGCGGCGCTTCGGGCCCCTGC 1513

Qy     1458 AGGTGCTGGAGACATATGGACTGACAGAGGGCAACGTGGCCACCATCAACTACACAGGAC 1517
Db     1514 AGGTGCTGGAGACATATGGACTGACAGAGGGCAACGTGGCCACCATCAACTACACAGGAC 1573

Qy     1518 AGCGGGGCGCTGTGGGGCGTGCTTCCTGGCTTTACAAGCATATCTTCCCCTTCTCCTTGA 1577
Db     1574 AGCGGGGCGCTGTGGGGCGTGCTTCCTGGCTTTACAAGCATATCTTCCCCTTCTCCTTGA 1633

Qy     1578 TTCGCTATGATGTCACCACAGGAGAGCCAATTCGGGACCCCCAGGGGCACTGTATGGCCA 1637
Db     1634 TTCGCTATGATGTCACCACAGGAGAGCCAATTCGGGACCCCCAGGGGCACTGTATGGCCA 1693

Qy     1638 CATCTCCAGGTGAGCCAGGGCTGCTGGTGGCCCCGGTAAGCCAGCAGTCCCCATTCCTGG 1697
Db     1694 CATCTCCAGGTGAGCCAGGGCTGCTGGTGGCCCCGGTAAGCCAGCAGTCCCCATTCCTGG 1753

Qy     1698 GCTATGCTGGCGGGCCAGAGCTGGCCCAGGGGAAGTTGCTAAAGGATGTCTTCCGGCCTG 1757
Db     1754 GCTATGCTGGCGGGCCAGAGCTGGCCCAGGGGAAGTTGCTAAAGGATGTCTTCCGGCCTG 1813

Qy     1758 GGGATGTTTTCTTCAACACTGGGGACCTGCTGGTCTGCGATGACCAAGGTTTTCTCCGCT 1817
Db     1814 GGGATGTTTTCTTCAACACTGGGGACCTGCTGGTCTGCGATGACCAAGGTTTTCTCCGCT 1873

Qy     1818 TCCATGATCGTACTGGAGACACCTTCAGGTGGAAGGGGGAGAATGTGGCCACAACCGAGG 1877
Db     1874 TCCATGATCGTACTGGAGACACCTTCAGGTGGAAGGGGGAGAATGTGGCCACAACCGAGG 1933

Qy     1878 TGGCAGAGGTCTTCGAGGCCCTAGATTTTCTTCAGGAGGTGAACGTCTATGGAGTCACTG 1937
Db     1934 TGGCAGAGGTCTTCGAGGCCCTAGATTTTCTTCAGGAGGTGAACGTCTATGGAGTCACTG 1993

Qy     1938 TGCCAGGGCATGAAGGCAGGGCTGGAATGGCAGCCCTAGTTCTGCGTCCCCCCCACGCTT 1997
Db     1994 TGCCAGGGCATGAAGGCAGGGCTGGAATGGCAGCCCTAGTTCTGCGTCCCCCCCACGCTT 2053

Qy     1998 TGGACCTTATGCAGCTCTACACCCACGTGTCTGAGAACTTGCCACCTTATGCCCGGCCCC 2057
Db     2054 TGGACCTTATGCAGCTCTACACCCACGTGTCTGAGAACTTGCCACCTTATGCCCGGCCCC 2113

Qy     2058 GATTCCTCAGGCTCCAGGAGTCTTTGGCCACCACAGAGACCTTCAAACAGCAGAAAGTTC 2117
Db     2114 GATTCCTCAGGCTCCAGGAGTCTTTGGCCACCACAGAGACCTTCAAACAGCAGAAAGTTC 2173

Qy     2118 GGATGGCAAATGAGGGCTTCGACCCCAGCACCCTGTCTGACCCACTGTACGTTCTGGACC 2177
Db     2174 GGATGGCAAATGAGGGCTTCGACCCCAGCACCCTGTCTGACCCACTGTACGTTCTGGACC 2233

Qy     2178 AGGCTGTAGGTGCCTACCTGCCCCCTCACAACTGCCCGGTACAGCGCCCTCCTGGCAGGAA 2237
Db     2234 AGGCTGTAGGTGCCTACCTGCCCCCTCACAACTGCCCGGTACAGCGCCCTCCTGGCAGGAA 2293

Qy     2238 ACCTTCGAATCTGAGAACTTCCACACCTGAGGCACCTGAGAGAGGAACTCTGTGGGGTGG 2297
Db     2294 ACCTTCGAATCTGAGAACTTCCACACCTGAGGCACCTGAGAGAGGAACTCTGTGGGGTGG 2353

Qy     2298 GGGCCGTTGCAGGTGTACTGGGCTGTCAGGGATCTTTTCTATACCAGAACTGCGGTCACT 2357
Db     2354 GGGCCGTTGCAGGTGTACTGGGCTGTCAGGGATCTTTTCTATACCAGAACTGCGGTCACT 2413

Qy     2358 ATTTTGTAATAAATGTGGCTGGAGCTGATCCAGCTGTCTCTGACCTA 2404
Db     2414 ATTTTGTAATAAATGTGGCTGGAGCTGATCCAGCTGTCTCTGACCTA 2460
```

RESULT 6
AAC78481
ID AAC78481 standard; cDNA; 2574 BP.
XX
AC AAC78481;

RESULT 1
AAY41699
ID AAY41699 standard; protein; 730 AA.
XX
AC AAY41699;
XX
DT 07-DEC-1999 (first entry)
XX
DE Human PRO703 protein sequence.
XX
KW Human; PRO; EST; expressed sequence tag; PCR primer; hybridisation;
KW probe; blood coagulation disorder; cancer; cellular adhesion disorder;
KW secreted protein; transmembrane protein.
XX
OS Homo sapiens.
XX
PN WO9946281-A2.
XX
PD 16-SEP-1999.
XX
PF 08-MAR-1999; 99WO-US005028.
XX
PR 10-MAR-1998; 98US-0077450P.
PR 11-MAR-1998; 98US-0077632P.
PR 11-MAR-1998; 98US-0077641P.
PR 11-MAR-1998; 98US-0077649P.
PR 12-MAR-1998; 98US-0077791P.
PR 13-MAR-1998; 98US-0078004P.
PR 17-MAR-1998; 98US-00040220.
PR 20-MAR-1998; 98US-0078886P.
PR 20-MAR-1998; 98US-0078910P.
PR 20-MAR-1998; 98US-0078936P.
PR 20-MAR-1998; 98US-0078939P.
PR 25-MAR-1998; 98US-0079294P.
PR 26-MAR-1998; 98US-0079656P.
PR 27-MAR-1998; 98US-0079663P.
PR 27-MAR-1998; 98US-0079664P.
PR 27-MAR-1998; 98US-0079689P.
PR 27-MAR-1998; 98US-0079728P.
PR 27-MAR-1998; 98US-0079786P.
PR 30-MAR-1998; 98US-0079920P.
PR 30-MAR-1998; 98US-0079923P.
PR 31-MAR-1998; 98US-0080105P.
PR 31-MAR-1998; 98US-0080107P.
PR 31-MAR-1998; 98US-0080165P.
PR 31-MAR-1998; 98US-0080194P.
PR 01-APR-1998; 98US-0080327P.
PR 01-APR-1998; 98US-0080328P.

Sequence Comparison 'B'

PR 15-MAY-1998; 98US-0085704P.
PR 18-MAY-1998; 98US-0086023P.
PR 22-MAY-1998; 98US-0086392P.
PR 22-MAY-1998; 98US-0086414P.
PR 22-MAY-1998; 98US-0086430P.
PR 22-MAY-1998; 98US-0086486P.
PR 28-MAY-1998; 98US-0087098P.
PR 28-MAY-1998; 98US-0087106P.
PR 28-MAY-1998; 98US-0087208P.
PR 30-JUL-1998; 98US-0094651P.
PR 11-SEP-1998; 98US-0100038P.
XX
PA (GETH) GENENTECH INC.
XX
PI Wood WI, Goddard A, Gurney A, Yuan J, Baker KP, Chen J;
XX
DR WPI; 1999-551358/46.
DR N-PSDB; AAZ33977.
XX
PT New secreted and transmembrane polypeptides and their polynucleotides,
PT useful for treating blood coagulation disorders, cancers and cellular
PT adhesion disorders.

Claim 12; Fig 39; 530pp; English.

The present invention describes secreted and transmembrane polypeptides and their polynucleotides. The nucleotide sequences are useful as sources of probes, primers, for chromosome mapping, and for generation of antisense sequences. They can also be used to create transgenic animals. The proteins can be used to treat a variety of diseases and disorders, depending on their function. Diseases that may be treated include blood coagulation disorders, cancers and cellular adhesion disorders. They may also be used to raise antibodies. AAZ33891 to AAZ34338, and AAY41685 to AAY41774 represent polynucleotide and polypeptide sequence given in the exemplification of the present invention

Sequence 730 AA;

Query Match 100.0%; Score 3843; DB 2; Length 730;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 730; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy    1 MGVCQRTRAPWKEKSQLERAALGFRKGGSGMFASGWNQTVPIEEAGSMAALLLLPLLLLL 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1 MGVCQRTRAPWKEKSQLERAALGFRKGGSGMFASGWNQTVPIEEAGSMAALLLLPLLLLL 60

Qy   61 PLLLLKLHLWPQLRWLPADLAFAVRALCCKRALRARALAAAAADPEGPEGGCSLAWRLAE 120
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   61 PLLLLKLHLWPQLRWLPADLAFAVRALCCKRALRARALAAAAADPEGPEGGCSLAWRLAE 120

Qy  121 LAQQRAAHTFLIHGSRRFSYSEAERESNRAARAFLRALGWDWGPDGGDSGEGSAGEGERA 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db  121 LAQQRAAHTFLIHGSRRFSYSEAERESNRAARAFLRALGWDWGPDGGDSGEGSAGEGERA 180

Qy  181 APGAGDAAAGSGAEFAGGDGAARGGGAAAPLSPGATVALLLPAGPEFLWLWFGLAKAGLR 240
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db  181 APGAGDAAAGSGAEFAGGDGAARGGGAAAPLSPGATVALLLPAGPEFLWLWFGLAKAGLR 240

Qy  241 TAFVPTALRRGPLLHCLRSCGARALVLAPEFLESLEPDLPALRAMGLHLWAAGPGTHPAG 300
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db  241 TAFVPTALRRGPLLHCLRSCGARALVLAPEFLESLEPDLPALRAMGLHLWAAGPGTHPAG 300

Qy  301 ISDLLAEVSAEVDGPVPGYLSSPQSITDTCLYIFTSGTTGLPKAARISHLKILQCQGFYQ 360
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db  301 ISDLLAEVSAEVDGPVPGYLSSPQSITDTCLYIFTSGTTGLPKAARISHLKILQCQGFYQ 360

Qy  361 LCGVHQEDVIYLALPLYHMSGSLLGIVGCMGIGATVVLKSKFSAGQFWEDCQQHRVTVFQ 420
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db  361 LCGVHQEDVIYLALPLYHMSGSLLGIVGCMGIGATVVLKSKFSAGQFWEDCQQHRVTVFQ 420

Qy  421 YIGELCRYLVNQPPSKAERGHKVRLAVGSGLRPDTWERFVRRFGPLQVLETYGLTEGNVA 480
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db  421 YIGELCRYLVNQPPSKAERGHKVRLAVGSGLRPDTWERFVRRFGPLQVLETYGLTEGNVA 480

Qy  481 TINYTGQRGAVGRASWLYKHIFPFSLIRYDVTTGEPIRDPQGHCMATSPGEPGLLVAPVS 540
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db  481 TINYTGQRGAVGRASWLYKHIFPFSLIRYDVTTGEPIRDPQGHCMATSPGEPGLLVAPVS 540

Qy  541 QQSPFLGYAGGPELAQGKLLKDVFRPGDVFFNTGDLLVCDDQGFLRFHDRTGDTFRWKGE 600
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db  541 QQSPFLGYAGGPELAQGKLLKDVFRPGDVFFNTGDLLVCDDQGFLRFHDRTGDTFRWKGE 600

Qy  601 NVATTEVAEVFEALDFLQEVNVYGVTVPGHEGRAGMAALVLRPPHALDLMQLYTHVSENL 660
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db  601 NVATTEVAEVFEALDFLQEVNVYGVTVPGHEGRAGMAALVLRPPHALDLMQLYTHVSENL 660

Qy  661 PPYARPRFLRLQESLATTETFKQQKVRMANEGFDPSTLSDPLYVLDQAVGAYLPLTTARY 720
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db  661 PPYARPRFLRLQESLATTETFKQQKVRMANEGFDPSTLSDPLYVLDQAVGAYLPLTTARY 720

Qy  721 SALLAGNLRI 730
          ||||||||||
Db  721 SALLAGNLRI 730
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1158 AAGATGTGATCTACCTCGCCCTCCCACTCTACCACATGTCCGGTTCCCTGCTGGGCATCG 1217
1214 AAGATGTGATCTACCTCGCCCTCCCACTCTACCACATGTCCGGTTCCCTGCTGGGCATCG 1273

1218 TGGGCTGCATGGGCATTGGGGCCACAGTGGTGCTGAAATCCAAGTTCTCGGCTGGTCAGT 1277
1274 TGGGCTGCATGGGCATTGGGGCCACAGTGGTGCTGAAATCCAAGTTCTCGGCTGGTCAGT 1333

1278 TCTGGGAAGATTGCCAGCAGCACAGGGTGACGGTGTTCCAGTACATTGGGGAGCTGTGCC 1337
1334 TCTGGGAAGATTGCCAGCAGCACAGGGTGACGGTGTTCCAGTACATTGGGGAGCTGTGCC 1393

1338 GATACCTTGTCAACCAGCCCCCGAGCAAGGCAGAACGTGGCCATAAGGTCCGGCTGGCAG 1397
1394 GATACCTTGTCAACCAGCCCCCGAGCAAGGCAGAACGTGGCCATAAGGTCCGGCTGGCAG 1453

1398 TGGGCAGCGGGCTGCGCCCAGATACCTGGGAGCGTTTTGTGCGGCGCTTCGGGCCCCTGC 1457
1454 TGGGCAGCGGGCTGCGCCCAGATACCTGGGAGCGTTTTGTGCGGCGCTTCGGGCCCCTGC 1513

1458 AGGTGCTGGAGACATATGGACTGACAGAGGGCAACGTGGCCACCATCAACTACACAGGAC 1517
1514 AGGTGCTGGAGACATATGGACTGACAGAGGGCAACGTGGCCACCATCAACTACACAGGAC 1573

1518 AGCGGGGCGCTGTGGGGCGTGCTTCCTGGCTTTACAAGCATATCTTCCCCTTCTCCTTGA 1577
1574 AGCGGGGCGCTGTGGGGCGTGCTTCCTGGCTTTACAAGCATATCTTCCCCTTCTCCTTGA 1633

1578 TTCGCTATGATGTCACCACAGGAGAGCCAATTCGGGACCCCCAGGGGCACTGTATGGCCA 1637
1634 TTCGCTATGATGTCACCACAGGAGAGCCAATTCGGGACCCCCAGGGGCACTGTATGGCCA 1693

1638 CATCTCCAGGTGAGCCAGGGCTGCTGGTGGCCCCGGTAAGCCAGCAGTCCCCATTCCTGG 1697
1694 CATCTCCAGGTGAGCCAGGGCTGCTGGTGGCCCCGGTAAGCCAGCAGTCCCCATTCCTGG 1753

1698 GCTATGCTGGCGGGCCAGAGCTGGCCCAGGGGAAGTTGCTAAAGGATGTCTTCCGGCCTG 1757
1754 GCTATGCTGGCGGGCCAGAGCTGGCCCAGGGGAAGTTGCTAAAGGATGTCTTCCGGCCTG 1813

1758 GGGATGTTTTCTTCAACACTGGGGACCTGCTGGTCTGCGATGACCAAGGTTTTCTCCGCT 1817
1814 GGGATGTTTTCTTCAACACTGGGGACCTGCTGGTCTGCGATGACCAAGGTTTTCTCCGCT 1873

1818 TCCATGATCGTACTGGAGACACCTTCAGGTGGAAGGGGGAGAATGTGGCCACAACCGAGG 1877
1874 TCCATGATCGTACTGGAGACACCTTCAGGTGGAAGGGGGAGAATGTGGCCACAACCGAGG 1933

1878 TGGCAGAGGTCTTCGAGGCCCTAGATTTTCTTCAGGAGGTGAACGTCTATGGAGTCACTG 1937
1934 TGGCAGAGGTCTTCGAGGCCCTAGATTTTCTTCAGGAGGTGAACGTCTATGGAGTCACTG 1993

1938 TGCCAGGGCATGAAGGCAGGGCTGGAATGGCAGCCCTAGTTCTGCGTCCCCCCCACGCTT 1997
1994 TGCCAGGGCATGAAGGCAGGGCTGGAATGGCAGCCCTAGTTCTGCGTCCCCCCCACGCTT 2053

1998 TGGACCTTATGCAGCTCTACACCCACGTGTCTGAGAACTTGCCACCTTATGCCCGGCCCC 2057
2054 TGGACCTTATGCAGCTCTACACCCACGTGTCTGAGAACTTGCCACCTTATGCCCGGCCCC 2113

2058 GATTCCTCAGGCTCCAGGAGTCTTTGGCCACCACAGAGACCTTCAAACAGCAGAAAGTTC 2117
2114 GATTCCTCAGGCTCCAGGAGTCTTTGGCCACCACAGAGACCTTCAAACAGCAGAAAGTTC 2173

2118 GGATGGCAAATGAGGGCTTCGACCCCAGCACCCTGTCTGACCCACTGTACGTTCTGGACC 2177
2174 GGATGGCAAATGAGGGCTTCGACCCCAGCACCCTGTCTGACCCACTGTACGTTCTGGACC 2233

2178 AGGCTGTAGGTGCCTACCTGCCCCTCACAACTGCCCGGTACAGCGCCCTCCTGGCAGGAA 2237
2234 AGGCTGTAGGTGCCTACCTGCCCCTCACAACTGCCCGGTACAGCGCCCTCCTGGCAGGAA 2293

2238 ACCTTCGAATCTGAGAACTTCCACACCTGAGGCACCTGAGAGAGGAACTCTGTGGGGTGG 2297
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Db      2294 ACCTTCGAATCTGAGAACTTCCACACCTGAGGCACCTGAGAGAGGAACTCTGTGGGGTGG 2353

Qy      2298 GGGCCGTTGCAGGTGTACTGGGCTGTCAGGGATCTTTTCTATACCAGAACTGCGGTCACT 2357
Db      2354 GGGCCGTTGCAGGTGTACTGGGCTGTCAGGGATCTTTTCTATACCAGAACTGCGGTCACT 2413

Qy      2358 ATTTTGTAATAAATGTGGCTGGAGCTGATCCAGCTGTCTCTGACCTA 2404
Db      2414 ATTTTGTAATAAATGTGGCTGGAGCTGATCCAGCTGTCTCTGACCTA 2460
```

Sequence Comparison 'C'

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RESULT 7
AAC58239
ID   AAC58239 standard; cDNA; 2574 BP.
XX
AC   AAC58239;
XX
DT   25-JAN-2001  (first entry)
XX
DE   Human PRO703 nucleotide sequence SEQ ID NO:28.
XX
KW   Human; tumour; diagnosis; neoplastic disease; identification; cancer;
KW   tumourigenesis; detection; neoplastic cell growth; proliferation;
KW   cytostatic; antiinflammatory; immunomodulatory; inflammatory disorder;
KW   immunological disorder; ss.
XX
OS   Homo sapiens.
XX
PN   WO200053754-A1.
XX
PD   14-SEP-2000.
XX
PF   06-JAN-2000; 2000WO-US000277.
XX
PR   08-MAR-1999;   99WO-US005028.
PR   12-MAR-1999;   99US-0123957P.
PR   29-MAR-1999;   99US-0126773P.
PR   21-APR-1999;   99US-0130232P.
PR   28-APR-1999;   99US-0131445P.
PR   05-OCT-1999;   99WO-US023089.
PR   30-NOV-1999;   99WO-US028313.
PR   02-DEC-1999;   99WO-US028551.
PR   02-DEC-1999;   99WO-US028564.
PR   30-DEC-1999;   99WO-US031243.
PR   30-DEC-1999;   99WO-US031274.
XX
PA   (GETH ) GENENTECH INC.
XX
PI   Baker KP,  Desauvage FJ,  Goddard A,  Gurney AL,  Klein RD,  Roy MA;
PI   Wood WI;
XX
DR   WPI; 2000-572269/53.
DR   P-PSDB; AAB24054.
XX
PT   New isolated antibody for use in compositions and methods for the
PT   diagnosis and treatment of neoplastic cell growth and proliferation in
PT   mammals, including humans, and in monitoring tumor treatment.
XX
PS   Claim 50; Fig 28; 195pp; English.
XX
CC   The present invention describes an isolated antibody (Ab) that binds to
CC   one of the human proteins (P) designated PRO213, PRO1330, PRO1449,
CC   PRO237, PRO324, PRO351, PRO362, PRO615, PRO531, PRO538, PRO3664, PRO618,
CC   PRO772, PRO703, PRO792 or PRO474. The Ab can be used in compositions and
CC   methods for the diagnosis and treatment of neoplastic cell growth and
CC   proliferation in mammals, including humans. Genes and polypeptides
CC   encoded by them, that are amplified in the genome of a tumour cell, can
CC   be identified and are useful targets for the treatment and prevention of
CC   certain cancers and may be used to monitor tumour treatment. Compounds
CC   that inhibit the expression or activity of the identified polypeptides
CC   can be identified and used as antagonists. Benign or malignant tumours,
CC   inflammatory disorders and immunological disorders can be treated.
```

Sequence Comparison #1

```
CC   AAC58123 to AAC58224 represent hybridisation probes and PCR primers used
CC   in the isolation of the human PRO sequences. AAC58225 to AAC58241 and
CC   AAB24041 to AAB24056 represent human PRO polynucleotide and protein
CC   sequences given in the exemplification of the present invention
XX
SQ   Sequence 2574 BP; 470 A; 775 C; 821 G; 508 T; 0 U; 0 Other;

  Query Match           99.3%;  Score 2387;  DB 3;  Length 2574;
  Best Local Similarity  100.0%;  Pred. No. 0;
  Matches 2387;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy         18 CTGCTCTCCGCCCGTGTGGAGTGGTGGGGGCCTGGGTGGGAATGGGCGTGTGCCAGCGCA 77
Db         74 CTGCTCTCCGCCCGTGTGGAGTGGTGGGGGCCTGGGTGGGAATGGGCGTGTGCCAGCGCA 133

Qy         78 CGCGCGCTCCCTGGAAGGAGAAGTCTCAGCTAGAACGAGCGGCCCTAGGTTTTCGGAAGG 137
Db        134 CGCGCGCTCCCTGGAAGGAGAAGTCTCAGCTAGAACGAGCGGCCCTAGGTTTTCGGAAGG 193

Qy        138 GAGGATCAGGGATGTTTGCGAGCGGCTGGAACCAGACGGTGCCGATAGAGGAAGCGGGCT 197
Db        194 GAGGATCAGGGATGTTTGCGAGCGGCTGGAACCAGACGGTGCCGATAGAGGAAGCGGGCT 253

Qy        198 CCATGGCTGCCCTCCTGCTGCTGCCCCCTGCTGCTGTTGCTACCGCTGCTGCTGCTGAAGC 257
Db        254 CCATGGCTGCCCTCCTGCTGCTGCCCCCTGCTGCTGTTGCTACCGCTGCTGCTGCTGAAGC 313

Qy        258 TACACCTCTGGCCGCAGTTGCGCTGGCTTCCGGCGGACTTGGCCTTTGCGGTGCGAGCTC 317
Db        314 TACACCTCTGGCCGCAGTTGCGCTGGCTTCCGGCGGACTTGGCCTTTGCGGTGCGAGCTC 373

Qy        318 TGTGCTGCAAAAGGGCTCTTCGAGCTCGCGCCCTGGCCGCGGCTGCCGCCGACCCGGAAG 377
Db        374 TGTGCTGCAAAAGGGCTCTTCGAGCTCGCGCCCTGGCCGCGGCTGCCGCCGACCCGGAAG 433

Qy        378 GTCCCGAGGGGGGCTGCAGCCTGGCCTGGCGCCTCGCGGAACTGGCCCAGCAGCGCGCCG 437
Db        434 GTCCCGAGGGGGGCTGCAGCCTGGCCTGGCGCCTCGCGGAACTGGCCCAGCAGCGCGCCG 493

Qy        438 CGCACACCTTTCTCATTCACGGCTCGCGGCGCTTTAGCTACTCAGAGGCGGAGCGCGAGA 497
Db        494 CGCACACCTTTCTCATTCACGGCTCGCGGCGCTTTAGCTACTCAGAGGCGGAGCGCGAGA 553

Qy        498 GTAACAGGGCTGCACGCGCCTTCCTACGTGCGCTAGGCTGGGACTGGGGACCCGACGGCG 557
Db        554 GTAACAGGGCTGCACGCGCCTTCCTACGTGCGCTAGGCTGGGACTGGGGACCCGACGGCG 613

Qy        558 GCGACAGCGGCGAGGGGAGCGCTGGAGAAGGCGAGCGGGCAGCGCCGGGAGCCGGAGATG 617
Db        614 GCGACAGCGGCGAGGGGAGCGCTGGAGAAGGCGAGCGGGCAGCGCCGGGAGCCGGAGATG 673

Qy        618 CAGCGGCCGGAAGCGGCGCGGAGTTTGCCGGAGGGGACGGTGCCGCCAGAGGTGGAGGAG 677
Db        674 CAGCGGCCGGAAGCGGCGCGGAGTTTGCCGGAGGGGACGGTGCCGCCAGAGGTGGAGGAG 733

Qy        678 CCGCCGCCCCCTCTGTCACCTGGAGCAACTGTGGCGCTGCTCCTCCCCGCTGGCCCAGAGT 737
Db        734 CCGCCGCCCCCTCTGTCACCTGGAGCAACTGTGGCGCTGCTCCTCCCCGCTGGCCCAGAGT 793

Qy        738 TTCTGTGGCTCTGGTTCGGGCTGGCCAAGGCCGGCCTGCGCACTGCCTTTGTGCCCACCG 797
Db        794 TTCTGTGGCTCTGGTTCGGGCTGGCCAAGGCCGGCCTGCGCACTGCCTTTGTGCCCACCG 853

Qy        798 CCCTGCGCCGGGGCCCCCCTGCTGCACTGCCTCCGCAGCTGCGGCGCGCGCGCGCTGGTGC 857
Db        854 CCCTGCGCCGGGGCCCCCCTGCTGCACTGCCTCCGCAGCTGCGGCGCGCGCGCGCTGGTGC 913

Qy        858 TGGCGCCAGAGTTTCTGGAGTCCCTGGAGCCGGACCTGCCCGCCCTGAGAGCCATGGGGC 917
Db        914 TGGCGCCAGAGTTTCTGGAGTCCCTGGAGCCGGACCTGCCCGCCCTGAGAGCCATGGGGC 973

          918 TCCACCTGTGGGCTGCAGGCCCAGGAACCCACCCTGCTGGAATTAGCGATTTGCTGGCTG 977
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```
Db        974 TCCACCTGTGGGCTGCAGGCCCAGGAACCCACCCTGCTGGAATTAGCGATTTGCTGGCTG 1033

Qy        978 AAGTGTCCGCTGAAGTGGATGGGCCAGTGCCAGGATACCTCTCTTCCCCCCAGAGCATAA 1037
Db       1034 AAGTGTCCGCTGAAGTGGATGGGCCAGTGCCAGGATACCTCTCTTCCCCCCAGAGCATAA 1093

Qy       1038 CAGACACGTGCCTGTACATCTTCACCTCTGGCACCACGGGCCTCCCCAAGGCTGCTCGGA 1097
Db       1094 CAGACACGTGCCTGTACATCTTCACCTCTGGCACCACGGGCCTCCCCAAGGCTGCTCGGA 1153

Qy       1098 TCAGTCATCTGAAGATCCTGCAATGCCAGGGCTTCTATCAGCTGTGTGGTGTCCACCAGG 1157
Db       1154 TCAGTCATCTGAAGATCCTGCAATGCCAGGGCTTCTATCAGCTGTGTGGTGTCCACCAGG 1213

Qy       1158 AAGATGTGATCTACCTCGCCCTCCCACTCTACCACATGTCCGGTTCCCTGCTGGGCATCG 1217
Db       1214 AAGATGTGATCTACCTCGCCCTCCCACTCTACCACATGTCCGGTTCCCTGCTGGGCATCG 1273

Qy       1218 TGGGCTGCATGGGCATTGGGGCCACAGTGGTGCTGAAATCCAAGTTCTCGGCTGGTCAGT 1277
Db       1274 TGGGCTGCATGGGCATTGGGGCCACAGTGGTGCTGAAATCCAAGTTCTCGGCTGGTCAGT 1333

Qy       1278 TCTGGGAAGATTGCCAGCAGCACAGGGTGACGGTGTTCCAGTACATTGGGGAGCTGTGCC 1337
Db       1334 TCTGGGAAGATTGCCAGCAGCACAGGGTGACGGTGTTCCAGTACATTGGGGAGCTGTGCC 1393

Qy       1338 GATACCTTGTCAACCAGCCCCCGAGCAAGGCAGAACGTGGCCATAAGGTCCGGCTGGCAG 1397
Db       1394 GATACCTTGTCAACCAGCCCCCGAGCAAGGCAGAACGTGGCCATAAGGTCCGGCTGGCAG 1453

Qy       1398 TGGGCAGCGGGCTGCGCCCAGATACCTGGGAGCGTTTTGTGCGGCGCTTCGGGCCCCTGC 1457
Db       1454 TGGGCAGCGGGCTGCGCCCAGATACCTGGGAGCGTTTTGTGCGGCGCTTCGGGCCCCTGC 1513

Qy       1458 AGGTGCTGGAGACATATGGACTGACAGAGGGCAACGTGGCCACCATCAACTACACAGGAC 1517
Db       1514 AGGTGCTGGAGACATATGGACTGACAGAGGGCAACGTGGCCACCATCAACTACACAGGAC 1573

Qy       1518 AGCGGGGCGCTGTGGGGCGTGCTTCCTGGCTTTACAAGCATATCTTCCCCTTCTCCTTGA 1577
Db       1574 AGCGGGGCGCTGTGGGGCGTGCTTCCTGGCTTTACAAGCATATCTTCCCCTTCTCCTTGA 1633

Qy       1578 TTCGCTATGATGTCACCACAGGAGAGCCAATTCGGGACCCCCAGGGGCACTGTATGGCCA 1637
Db       1634 TTCGCTATGATGTCACCACAGGAGAGCCAATTCGGGACCCCCAGGGGCACTGTATGGCCA 1693

Qy       1638 CATCTCCAGGTGAGCCAGGGCTGCTGGTGGCCCCGGTAAGCCAGCAGTCCCCATTCCTGG 1697
Db       1694 CATCTCCAGGTGAGCCAGGGCTGCTGGTGGCCCCGGTAAGCCAGCAGTCCCCATTCCTGG 1753

Qy       1698 GCTATGCTGGCGGGCCAGAGCTGGCCCAGGGGAAGTTGCTAAAGGATGTCTTCCGGCCTG 1757
Db       1754 GCTATGCTGGCGGGCCAGAGCTGGCCCAGGGGAAGTTGCTAAAGGATGTCTTCCGGCCTG 1813

Qy       1758 GGGATGTTTTCTTCAACACTGGGGACCTGCTGGTCTGCGATGACCAAGGTTTTCTCCGCT 1817
Db       1814 GGGATGTTTTCTTCAACACTGGGGACCTGCTGGTCTGCGATGACCAAGGTTTTCTCCGCT 1873

Qy       1818 TCCATGATCGTACTGGAGACACCTTCAGGTGGAAGGGGGAGAATGTGGCCACAACCGAGG 1877
Db       1874 TCCATGATCGTACTGGAGACACCTTCAGGTGGAAGGGGGAGAATGTGGCCACAACCGAGG 1933

Qy       1878 TGGCAGAGGTCTTCGAGGCCCTAGATTTTCTTCAGGAGGTGAACGTCTATGGAGTCACTG 1937
Db       1934 TGGCAGAGGTCTTCGAGGCCCTAGATTTTCTTCAGGAGGTGAACGTCTATGGAGTCACTG 1993

Qy       1938 TGCCAGGGCATGAAGGCAGGGCTGGAATGGCAGCCCTAGTTCTGCGTCCCCCCCACGCTT 1997
Db       1994 TGCCAGGGCATGAAGGCAGGGCTGGAATGGCAGCCCTAGTTCTGCGTCCCCCCCACGCTT 2053

Qy       1998 TGGACCTTATGCAGCTCTACACCCACGTGTCTGAGAACTTGCCACCTTATGCCCGGCCCC 2057
Db       2054 TGGACCTTATGCAGCTCTACACCCACGTGTCTGAGAACTTGCCACCTTATGCCCGGCCCC 2113
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Sequence Comparison "C"

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Qy       2058 GATTCCTCAGGCTCCAGGAGTCTTTGGCCACCACAGAGACCTTCAAACAGCAGAAAGTTC 2117
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2114 GATTCCTCAGGCTCCAGGAGTCTTTGGCCACCACAGAGACCTTCAAACAGCAGAAAGTTC 2173

Qy       2118 GGATGGCAAATGAGGGCTTCGACCCCAGCACCCTGTCTGACCCACTGTACGTTCTGGACC 2177
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2174 GGATGGCAAATGAGGGCTTCGACCCCAGCACCCTGTCTGACCCACTGTACGTTCTGGACC 2233

Qy       2178 AGGCTGTAGGTGCCTACCTGCCCCTCACAACTGCCCGGTACAGCGCCCTCCTGGCAGGAA 2237
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2234 AGGCTGTAGGTGCCTACCTGCCCCTCACAACTGCCCGGTACAGCGCCCTCCTGGCAGGAA 2293

Qy       2238 ACCTTCGAATCTGAGAACTTCCACACCTGAGGCACCTGAGAGAGGAACTCTGTGGGGTGG 2297
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2294 ACCTTCGAATCTGAGAACTTCCACACCTGAGGCACCTGAGAGAGGAACTCTGTGGGGTGG 2353

Qy       2298 GGGCCGTTGCAGGTGTACTGGGCTGTCAGGGATCTTTTCTATACCAGAACTGCGGTCACT 2357
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2354 GGGCCGTTGCAGGTGTACTGGGCTGTCAGGGATCTTTTCTATACCAGAACTGCGGTCACT 2413

Qy       2358 ATTTTGTAATAAATGTGGCTGGAGCTGATCCAGCTGTCTCTGACCTA 2404
             ||||||||||||||||||||||||||||||||||||||||||||||
Db       2414 ATTTTGTAATAAATGTGGCTGGAGCTGATCCAGCTGTCTCTGACCTA 2460
```

RESULT 8
ACD42510
ID ACD42510 standard; cDNA; 2574 BP.
XX
AC ACD42510;
XX
DT 09-SEP-2003 (first entry)
XX
DE Novel human secreted and transmembrane protein PRO703 cDNA.
XX
KW Human; secreted and transmembrane protein; PRO; virucide; gene therapy;
KW cell death; growth induction cascade; blood coagulation cascade;
KW viral infection; gene; ss.
XX
OS Homo sapiens.
XX
PN US2003050239-A1.
XX
PD 13-MAR-2003.
XX
PF 15-OCT-2001; 2001US-00978191.
XX
PR 17-OCT-1997; 97US-0062250P.
PR 03-NOV-1997; 97US-0064249P.
PR 13-NOV-1997; 97US-0065311P.
PR 21-NOV-1997; 97US-0066364P.
PR 10-MAR-1998; 98US-0077450P.
PR 11-MAR-1998; 98US-0077632P.
PR 11-MAR-1998; 98US-0077641P.
PR 11-MAR-1998; 98US-0077649P.
PR 12-MAR-1998; 98US-0077791P.
PR 13-MAR-1998; 98US-0078004P.
PR 17-MAR-1998; 98US-00040220.
PR 20-MAR-1998; 98US-0078886P.
PR 20-MAR-1998; 98US-0078910P.
PR 20-MAR-1998; 98US-0078936P.
PR 20-MAR-1998; 98US-0078939P.
PR 25-MAR-1998; 98US-0079294P.
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PR 22-APR-1998; 98US-0082700P.
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PR 22-APR-1998; 98US-0082804P.
PR 23-APR-1998; 98US-0082796P.
PR 27-APR-1998; 98US-0083336P.
PR 28-APR-1998; 98US-0083322P.
PR 29-APR-1998; 98US-0083392P.
PR 29-APR-1998; 98US-0083495P.
PR 29-APR-1998; 98US-0083496P.
PR 29-APR-1998; 98US-0083499P.
PR 29-APR-1998; 98US-0083500P.
PR 29-APR-1998; 98US-0083545P.
PR 29-APR-1998; 98US-0083554P.
PR 29-APR-1998; 98US-0083558P.
PR 29-APR-1998; 98US-0083559P.
PR 30-APR-1998; 98US-0083742P.
PR 05-MAY-1998; 98US-0084366P.
PR 06-MAY-1998; 98US-0084414P.
PR 06-MAY-1998; 98US-0084441P.
PR 07-MAY-1998; 98US-0084598P.
PR 07-MAY-1998; 98US-0084600P.
PR 07-MAY-1998; 98US-0084627P.
PR 07-MAY-1998; 98US-0084637P.
PR 07-MAY-1998; 98US-0084639P.
PR 07-MAY-1998; 98US-0084640P.
PR 07-MAY-1998; 98US-0084643P.
PR 13-MAY-1998; 98US-0085323P.
PR 13-MAY-1998; 98US-0085338P.
PR 13-MAY-1998; 98US-0085339P.
PR 15-MAY-1998; 98US-0085573P.
PR 15-MAY-1998; 98US-0085579P.
PR 15-MAY-1998; 98US-0085580P.
PR 15-MAY-1998; 98US-0085582P.
PR 15-MAY-1998; 98US-0085689P.
PR 15-MAY-1998; 98US-0085697P.
PR 15-MAY-1998; 98US-0085700P.
PR 15-MAY-1998; 98US-0085704P.
PR 18-MAY-1998; 98US-0086023P.
PR 22-MAY-1998; 98US-0086392P.
PR 22-MAY-1998; 98US-0086414P.
PR 22-MAY-1998; 98US-0086430P.
PR 22-MAY-1998; 98US-0086486P.
PR 28-MAY-1998; 98US-0087098P.
PR 28-MAY-1998; 98US-0087106P.
PR 28-MAY-1998; 98US-0087208P.
PR 26-JUN-1998; 98US-00105413.
PR 26-JUN-1998; 98US-0090863P.
PR 26-JUN-1998; 98US-0091010P.
PR 01-JUL-1998; 98US-0091359P.
PR 30-JUL-1998; 98US-0094651P.
PR 11-SEP-1998; 98US-0100038P.
PR 07-OCT-1998; 98US-00168978.

AAB24054
ID AAB24054 standard; protein; 730 AA.
XX
AC AAB24054;
XX
DT 25-JAN-2001 (first entry)
XX
DE Human PRO703 protein sequence SEQ ID NO:29.
XX
KW Human; tumour; diagnosis; neoplastic disease; identification; cancer;
KW tumourigenesis; detection; neoplastic cell growth; proliferation;
KW cytostatic; antiinflammatory; immunomodulatory; inflammatory disorder;
KW immunological disorder.
XX
OS Homo sapiens.
XX
PN WO200053754-A1.

XX
PD 14-SEP-2000.
XX
PF 06-JAN-2000; 2000WO-US000277.
XX
PR 08-MAR-1999; 99WO-US005028.
PR 12-MAR-1999; 99US-0123957P.
PR 29-MAR-1999; 99US-0126773P.
PR 21-APR-1999; 99US-0130232P.
PR 28-APR-1999; 99US-0131445P.
PR 05-OCT-1999; 99WO-US023089.
PR 30-NOV-1999; 99WO-US028313.
PR 02-DEC-1999; 99WO-US028551.
PR 02-DEC-1999; 99WO-US028564.
PR 30-DEC-1999; 99WO-US031243.
PR 30-DEC-1999; 99WO-US031274.
XX
PA (GETH) GENENTECH INC.
XX
PI Baker KP, Desauvage FJ, Goddard A, Gurney AL, Klein RD, Roy MA;
PI Wood WI;
XX
DR WPI; 2000-572269/53.
DR N-PSDB; AAC58239.
XX
PT New isolated antibody for use in compositions and methods for the
PT diagnosis and treatment of neoplastic cell growth and proliferation in
PT mammals, including humans, and in monitoring tumor treatment.
XX
PS Claim 61; Fig 29; 195pp; English.
XX
CC The present invention describes an isolated antibody (Ab) that binds to
CC one of the human proteins (P) designated PRO213, PRO1330, PRO1449,
CC PRO237, PRO324, PRO351, PRO362, PRO615, PRO531, PRO538, PRO3664, PRO618,
CC PRO772, PRO703, PRO792 or PRO474. The Ab can be used in compositions and
CC methods for the diagnosis and treatment of neoplastic cell growth and
CC proliferation in mammals, including humans. Genes and polypeptides
CC encoded by them, that are amplified in the genome of a tumour cell, can
CC be identified and are useful targets for the treatment and prevention of
CC certain cancers and may be used to monitor tumour treatment. Compounds
CC that inhibit the expression or activity of the identified polypeptides
CC can be identified and used as antagonists. Benign or malignant tumours,
CC inflammatory disorders and immunological disorders can be treated.
CC AAC58123 to AAC58224 represent hybridisation probes and PCR primers used
CC in the isolation of the human PRO sequences. AAC58225 to AAC58241 and
CC AAB24041 to AAB24056 represent human PRO polynucleotide and protein
CC sequences given in the exemplification of the present invention
XX
SQ Sequence 730 AA;

Sequence Comparison "D"

Query Match 100.0%; Score 3843; DB 3; Length 730;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 730; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 MGVCQRTRAPWKEKSQLERAALGFRKGGSGMFASGWNQTVPIEEAGSMAALLLLPLLLLL 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MGVCQRTRAPWKEKSQLERAALGFRKGGSGMFASGWNQTVPIEEAGSMAALLLLPLLLLL 60

Qy         61 PLLLLKLHLWPQLRWLPADLAFAVRALCCKRALRARALAAAAADPEGPEGGCSLAWRLAE 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 PLLLLKLHLWPQLRWLPADLAFAVRALCCKRALRARALAAAAADPEGPEGGCSLAWRLAE 120

Qy        121 LAQQRAAHTFLIHGSRRFSYSEAERESNRAARAFLRALGWDWGPDGGDSGEGSAGEGERA 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 LAQQRAAHTFLIHGSRRFSYSEAERESNRAARAFLRALGWDWGPDGGDSGEGSAGEGERA 180

Qy        181 APGAGDAAAGSGAEFAGGDGAARGGGAAAPLSPGATVALLLPAGPEFLWLWFGLAKAGLR 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 APGAGDAAAGSGAEFAGGDGAARGGGAAAPLSPGATVALLLPAGPEFLWLWFGLAKAGLR 240

Qy        241 TAFVPTALRRGPLLHCLRSCGARALVLAPEFLESLEPDLPALRAMGLHLWAAGPGTHPAG 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 TAFVPTALRRGPLLHCLRSCGARALVLAPEFLESLEPDLPALRAMGLHLWAAGPGTHPAG 300
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Sequence Comparison "D"

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Qy        301 ISDLLAEVSAEVDGPVPGYLSSPQSITDTCLYIFTSGTTGLPKAARISHLKILQCQGFYQ 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 ISDLLAEVSAEVDGPVPGYLSSPQSITDTCLYIFTSGTTGLPKAARISHLKILQCQGFYQ 360

Qy        361 LCGVHQEDVIYLALPLYHMSGSLLGIVGCMGIGATVVLKSKFSAGQFWEDCQQHRVTVFQ 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 LCGVHQEDVIYLALPLYHMSGSLLGIVGCMGIGATVVLKSKFSAGQFWEDCQQHRVTVFQ 420

Qy        421 YIGELCRYLVNQPPSKAERGHKVRLAVGSGLRPDTWERFVRRFGPLQVLETYGLTEGNVA 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 YIGELCRYLVNQPPSKAERGHKVRLAVGSGLRPDTWERFVRRFGPLQVLETYGLTEGNVA 480

Qy        481 TINYTGQRGAVGRASWLYKHIFPFSLIRYDVTTGEPIRDPQGHCMATSPGEPGLLVAPVS 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 TINYTGQRGAVGRASWLYKHIFPFSLIRYDVTTGEPIRDPQGHCMATSPGEPGLLVAPVS 540

Qy        541 QQSPFLGYAGGPELAQGKLLKDVFRPGDVFFNTGDLLVCDDQGFLRFHDRTGDTFRWKGE 600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 QQSPFLGYAGGPELAQGKLLKDVFRPGDVFFNTGDLLVCDDQGFLRFHDRTGDTFRWKGE 600

Qy        601 NVATTEVAEVFEALDFLQEVNVVGVTVPGHEGRAGMAALVLRPPHALDLMQLYTHVSENL 660
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 NVATTEVAEVFEALDFLQEVNVVGVTVPGHEGRAGMAALVLRPPHALDLMQLYTHVSENL 660

Qy        661 PPYARPRFLRLQESLATTETFKQQKVRMANEGFDPSTLSDPLYVLDQAVGAYLPLTTARY 720
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 PPYARPRFLRLQESLATTETFKQQKVRMANEGFDPSTLSDPLYVLDQAVGAYLPLTTARY 720

Qy        721 SALLAGNLRI 730
              ||||||||||
Db        721 SALLAGNLRI 730
```

RESULT 4
AAB60388
ID AAB60388 standard; protein; 730 AA.
XX
AC AAB60388;
XX
DT 24-APR-2001 (first entry)
XX
DE Human fatty acid transporter PSEC67.
XX
KW Human; fatty acid transporter; PSEC67; long-chain fatty acid uptake;
KW oleic acid; drug screening; gene therapy; metabolic disorder;
KW cardiomyopathy; skeletal muscle disorders; renal failure.
XX
OS Homo sapiens.
XX
PN WO200104301-A1.
XX
PD 18-JAN-2001.
XX
PF 07-JUL-2000; 2000WO-JP004549.
XX
PR 08-JUL-1999; 99JP-00194179.
PR 18-OCT-1999; 99US-0159586P.
PR 25-APR-2000; 2000JP-00128993.
XX
PA (HELI-) HELIX RES INST.
XX
PI Morikawa N, Masuho Y, Ota T, Isogai T, Nishikawa T, Kawai Y;
XX
DR WPI; 2001-138349/14.
DR N-PSDB; AAF27417.
XX
PT Fatty acid transporter protein and encoded gene PSEC67 cloned from human
PT cDNA library, with activity of oleic acid incorporation, useful as target
PT molecule of preventives or remedies of fatty-acid metabolic disorders.
XX
PS Claim 1; Page 48-51; 58pp; Japanese.
XX

Sequence Comparison # E

RESULT 3
O88561
ID O88561 PRELIMINARY; PRT; 614 AA.
AC O88561;
DT 01-NOV-1998 (TrEMBLrel. 08, Created)
DT 01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Fatty acid transport protein 3 (FATP3) (Long-chain fatty acid
DE transport protein 3) (Fragment).
GN SLC27A3.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=98337965; PubMed=9671728;
RA Hirsch D., Stahl A., Lodish H.F.;
RT "A family of fatty acid transporters conserved from mycobacterium to
RT man.";
RL Proc. Natl. Acad. Sci. U.S.A. 95:8625-8629(1998).
CC -!- FUNCTION: INVOLVED IN TRANSLOCATION OF LONG-CHAIN FATTY ACIDS
CC ACROSS THE PLASMA MEMBRANE. MAY PLAY A PIVOTAL ROLE IN REGULATING
CC AVAILABLE LONG-CHAIN FATTY ACID SUBSTRATES FROM EXOGENOUS SOURCES
CC IN TISSUES UNDERGOING HIGH LEVELS OF BETA-OXIDATION OR
CC TRIGLYCERIDE SYNTHESIS.
CC -!- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN. PLASMA MEMBRANE.
CC -!- TISSUE SPECIFICITY: LUNG, LIVER, AND TESTIS.
CC -!- SIMILARITY: TO OTHER ENZYMES WHICH ACT VIA AN ATP-DEPENDENT
CC COVALENT BINDING OF AMP TO THEIR SUBSTRATE.
DR EMBL; AF072758; AAC40187.1; -.
DR MGD; MGI:1347358; Slc27a3.
DR GO; GO:0016021; C:integral to membrane; IEA.
DR GO; GO:0003824; F:catalytic activity; IEA.
DR GO; GO:0006869; P:lipid transport; IEA.
DR GO; GO:0008152; P:metabolism; IEA.
DR InterPro; IPR000873; AMP-bind.
DR Pfam; PF00501; AMP-binding; 2.
DR PROSITE; PS00455; AMP_BINDING; 1.
KW Glycoprotein; Lipid transport; Transmembrane; Transport.
FT NON_TER 1 1
FT TRANSMEM 99 119 POTENTIAL.
FT TRANSMEM 262 282 POTENTIAL.
FT CARBOHYD 367 367 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 614 AA; 67041 MW; 33C2A558CDD9D989 CRC64;

Query Match 71.9%; Score 2763; DB 11; Length 614;
Best Local Similarity 83.5%; Pred. No. 1.5e-181;
Matches 526; Conservative 35; Mismatches 53; Indels 16; Gaps 2;

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Qy      101 AAADPEGPEGGCSLAWRLAELAQQRAAHTFLIHGSRRFSYSEAERESNRAARAFLRALGW 160
            |||||| | ||||||||| ||::: |||||||::|||:|||||||| |||||| ||
Db        1 AAADPESSESGCSLAWRLAYLAREQPTHTFLIHGAQRFSYAEAERESNRIARAFLRARGW 60

Qy      161 DWGPDGGDSGEGSAGEGERAAPGAGDAAAGSGAEFAGGDGAARGGGAAAPLSPGATVALL 220
              |  |  || ||  || | || ||||||               |  | ||:||||||||
Db       61 TGGRRG--SGRGSTEEGARVAPPAGDAAA-------------RGTTAPPLAPGATVALL 104

Qy      221 LPAGPEFLWLWFGLAKAGLRTAFVPTALRRGPLLHCLRSCGARALVLAPEFLESLEPDLP 280
            |||||:|||:|||||||||||||||||||||||||||||||| ||||| ||||||||||
Db      105 LPAGPDFLWIWFGLAKAGLRTAFVPTALRRGPLLHCLRSCGASALVLATEFLESLEPDLP 164

Qy      281 ALRAMGLHLWAAGPGTHPAGISDLLAEVSAEVDGPVPGYLSSPQSITDTCLYIFTSGTTG 340
            |||||||||| || |: |||||:||:| : :|| |||||||:||:| ||||||||||||
Db      165 ALRAMGLHLWATGPETNVAGISNLLSEAADQVDEPVPGYLSAPQNIMDTCLYIFTSGTTG 224

Qy      341 LPKAARISHLKILQCQGFYQLCGVHQEDVIYLALPLYHMSGSLLGIVGCMGIGATVVLKS 400
            |||||||||||:||||||| ||||||||||||||||||||||||||||:|||||||||
Db      225 LPKAARISHLKVLQCQGFYHLCGVHQEDVIYLALPLYHMSGSLLGIVGCLGIGATVVLKP 284

Qy      401 KFSAGQFWEDCQQHRVTVFQYIGELCRYLVNQPPSKAERGHKVRLAVGSGLRPDTWERFV 460
            |||| |||:|||:|||||||||||||||||||||||| ||||||||||||||||||||:
Db      285 KFSASQFWDDCQKHRVTVFQYIGELCRYLVNQPPSKAEFDHKVRLAVGSGLRPDTWERFL 344

Qy      461 RRFGPLQVLETYGLTEGNVATINYTGQRGAVGRASWLYKHIFPFSLIRYDVTTGEPIRDP 520
            |||||||:|||||:||||||| ||||::|||||||||||||||||||||||| ||||||:
Db      345 RRFGPLQILETYGMTEGNVATFNYTGRQGAVGRASWLYKHIFPFSLIRYDVMTGEPIRNA 404

Qy      521 QGHCMATSPGEPGLLVAPVSQQSPFLGYAGGPELAQGKLLKDVFRPGDVFFNTGDLLVCD 580
            ||||| |||||||||||||||||||||||| |||: ||||||| ||||||||||||||
Db      405 QGHCMTTSPGEPGLLVAPVSQQSPFLGYAGAPELAKDKLLKDVFWSGDVFFNTGDLLVCD 464

Qy      581 DQGFLRFHDRTGDTFRWKGENVATTEVAEVFEALDFLQEVNVYGVTVPGHEGRAGMAALV 640
            :|||| |||||||| |||||||||||||||| | ||||||||:|||||||||||||||||
Db      465 EQGFLHFHDRTGDTIRWKGENVATTEVAEVLETLDFLQEVNIYGVTVPGHEGRAGMAALA 524

Qy      641 LRPPHALDLMQLYTHVSENLPPYARPRFLRLQESLATTETFKQQKVRMANEGFDPSTLSD 700
            |||| ||:|:|||:|||||||||||||||||||||||||||||||||||||||||||| |||
Db      525 LRPPQALNLVQLYSHVSENLPPYARPRFLRLQESLATTETFKQQKVRMANEGFDPSVLSD 584

Qy      701 PLYVLDQAVGAYLPLTTARYSALLAGNLRI 730
            ||||||| :||||||| |||||||:|:|||
Db      585 PLYVLDQDIGAYLPLTPARYSALLSGDLRI 614
```

RESULT 4
Q8BK70
ID Q8BK70 PRELIMINARY; PRT; 446 AA.
AC Q8BK70;
DT 01-MAR-2003 (TrEMBLrel. 23, Created)
DT 01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE Solute carrier family 27.
GN SLC27A3.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=Body;
RX MEDLINE=22354683; PubMed=12466851;
RA The FANTOM Consortium,
RA the RIKEN Genome Exploration Research Group Phase I & II Team;
RT "Analysis of the mouse transcriptome based on functional annotation of
RT 60,770 full-length cDNAs.";
RL Nature 420:563-573(2002).
DR EMBL; AK076014; BAC36120.1; -.
DR MGD; MGI:1347358; Slc27a3.
DR GO; GO:0003824; F:catalytic activity; IEA.
DR GO; GO:0008152; P:metabolism; IEA.
DR InterPro; IPR000873; AMP-bind.
DR Pfam; PF00501; AMP-binding; 1.
DR PROSITE; PS00455; AMP_BINDING; 1.
SQ SEQUENCE 446 AA; 49317 MW; BA1ED75849EDF92B CRC64;

Query Match 54.7%; Score 2103; DB 11; Length 446;
Best Local Similarity 87.9%; Pred. No. 2.3e-136;
Matches 392; Conservative 26; Mismatches 28; Indels 0; Gaps 0;

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Qy      285 MGLHLWAAGPGTHPAGISDLLAEVSAEVDGPVPGYLSSPQSITDTCLYIFTSGTTGLPKA 344
            ||||||| || |: ||||:||:| : :|| |||||||:||:| ||||||||||||||||
Db        1 MGLHLWATGPETNVAGISNLLSEAADQVDEPVPGYLSAPQNIMDTCLYIFTSGTTGLPKA 60

Qy      345 ARISHLKILQCQGFYQLCGVHQEDVIYLALPLYHMSGSLLGIVGCMGIGATVVLKSKFSA 404
            |||||||:||||||| ||||||||||||||||||||||||||||:||||||| ||||
Db       61 ARISHLKVLQCQGFYHLCGVHQEDVIYLALPLYHMSGSLLGIVGCLGIGATVVLKPKFSA 120

Qy      405 GQFWEDCQQHRVTVFQYIGELCRYLVNQPPSKAERGHKVRLAVGSGLRPDTWERFVRRFG 464
            |||:|||:|||||||||||||||||||||||| |||||||:|||||||||||||:||||
Db      121 SQFWDDCQKHRVTVFQYIGELCRYLVNQPPSKAECDHKVRLAVGSGLRPDTWERFLRRFG 180

Qy      465 PLQVLETYGLTEGNVATINYTGQRGAVGRASWLYKHIFPFSLIRYDVTTGEPIRDPQGHC 524
            |||:||||||:||||||| |||::|||||||||||||||||||||||| ||||||: ||||
Db      181 PLQILETYGMTEGNVATFNYTGRQGAVGRASWLYKHIFPFSLIRYDVMTGEPIRNAQGHC 240
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